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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,770	10/25/2005	Graham Paul Hopkins	41557-218983 RK	4866

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VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER

TANINGCO, MARCUS H

ART UNIT	PAPER NUMBER
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2884

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/537,770

Applicant(s)

HOPKINS ET AL.

Examiner

Marcus H. Taningco

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 6/6/05, 1/12/06.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Restriction

The examiner notes that many of the recited claims include limitations related to multiple embodiments of a gas sensor, wherein each embodiment comprises different structural configurations. As such, the applicant should be aware that any amendments to the claims may result in a subsequent restriction requirement or an election by original presentation. The examiner notes that the current invention has been deemed to be directed to an apparatus.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, and 18, are rejected under 35 U.S.C. 102(b) as being anticipated by Wong (US 5,060,508).

With regards to claim 1, Wong discloses a gas sample chamber comprising: a body (22), on which is mounted an optical source (12) and a detector (26), the body further comprising passages (*channel*) (30) to admit gas (column 3, lines 40-45), the passages further comprising a passage (*elongated groove*) (20) having reflective surfaces defining a folded (Figs. 1-5) optical path for light from the source (column 3, lines 27-34).

With regards to claim 2, Wong discloses a sensor in which the source (12) is located at one end portion (Fig. 1).

With regards to claim 3, Wong discloses a sensor comprising a detector (26) located at the other end portion of the channel (Fig. 1).

With regards to claim 6, Wong discloses said groove forms a serpentine path (Fig. 2).

With regards to claim 18, Wong discloses an infrared optical source (column 2, lines 34-37).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in view of Wong (US 5,747,808).

With regards to claim 4, Wong discloses the claimed invention except for a second detector. Wong ('808) discloses an NDIR gas sensor comprising a second detector. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Wong with a second detector for calibration purposes or to detect multiple gases.

Claims 5 and 7-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong.

With regards to claims 5 and 7-10, Wong discloses said elongated groove forms a serpentine path. Wong realizes that a long path length is more suitable for the measurement of very low concentrations of gasses (column 2, lines 18-21). With regards to the specific requirements of the path, those skilled in the art appreciate that, absent some degree of criticality, the shape and location of the path would have been a matter of routine design choice that would have been within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

With regards to claims 11-13, Wong discloses a gas sample chamber comprising: a body (22), on which is mounted an optical source (12) and a detector (26). Wong fails to teach at least one wall extending transversely from the plane of the base. Instead, Wong discloses an elongated groove (20) formed on the same plane as the optical source and detector. It would have been an obvious matter of design choice to provide at least one wall extending transversely from the plane of the base, since applicant has not disclosed that said wall solves any stated problem or is for any particular purpose and it appears that the invention would work equally well with the elongated groove formed on the same plane as the optical source and detector.

With regards to claim 14, Wong discloses a gas sensor comprising two halves (Figs. 2 and 4), said halves comprising channels. Although Wong fails to specify a cover for the channel, Wong does suggest that the channel could be machined into only one of the halves, leaving the second half to function as a cover for said channel, said cover comprising gas admittance means (30) (column 4, lines 1-5). As such, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Wong with a cover in order to shield the channel from external light.

With regards to claim 15, Wong discloses both halves having reflective interior coatings (column 4, lines 20-25).

With regards to claims 16 and 17, Wong discloses diffusing gas into the channels though a number of passages (*gas admittance means*) (30), but fails to specify the specific requirements of said passages. Nevertheless, those skilled in the art appreciate that sintered filters are well known and conventionally used to diffuse gas into a sample chamber while filtering out particulates that may interfere with the absorption of light by the sample gas, and is therefore viewed by the Examiner as a matter of routine design choice.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2884

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus H. Taningco whose telephone number is (571) 272-1848. The examiner can normally be reached on M - F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcus Taningco
Patent Examiner
GAU 2884



ALBERT J. GAGLIARDI
PRIMARY EXAMINER